

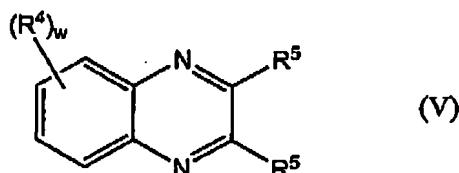
Application No.: 10/612,482
 Docket No.: UC0213USNA4

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Listing of Claims

APR 18 2007

1. (Currently Amended.) A photoactive electronic device comprising:
 - (a) an anode;
 - (b) a cathode, said cathode having a work function energy level E_3 ;
 - (c) a photoactive layer positioned between said anode and said cathode, said photoactive layer comprising a cyclometalated complex of a transition metal, said cyclometalated complex having a LUMO energy level E_2 and a HOMO energy level E_4 ; and
 - (d) an electron transport and/or anti-quenching layer positioned between said cathode and said photoactive layer, said electron transport and/or anti-quenching layer having a LUMO energy level E_1 and a HOMO energy level E_5 , said layer comprising a quinoxaline derivative having Formula V



wherein:

R^4 and R^5 are the same or different at each occurrence and are selected from H, F, Cl, Br, alkyl, heteroalkyl, alkenyl, alkynyl, aryl, heteroaryl, arylalkylene, alkenylaryl, alkynylaryl, heteroarylalkylene, alkenylheteroaryl, alkynylheteroaryl, $C_nH_aF_b$, $OC_nH_aF_b$, $C_6H_cF_d$, and $OC_6H_cF_d$, or both of R^5 together may constitute an arylene or heteroarylene group;

a, b, c, and d are each an integer such that $a+b = 2n + 1$, and $c + d = 5$;

n is an integer equal to or greater than 1; and

w is an integer from 0 through 4;

with the proviso that:

- (1) $E_1 - E_3 < 1eV$,
- (2) $E_1 - E_2 > 0$, and
- (3) $E_4 - E_5 > -1eV$.

2. (Canceled)
3. (Original) The device of Claim 1 wherein $E_4 - E_5 > 0$.

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4. (Currently Amended.) The device of Claim 1 wherein said electron transport and/or anti-quenching layer has an electron mobility of at least 10^{-7} $\text{cm}^2/(\text{eV}\cdot\text{sec})$.

5. (Canceled)

6. (Canceled)

7. (Canceled)

8. (Canceled)

9. (Canceled)

10. (Canceled)

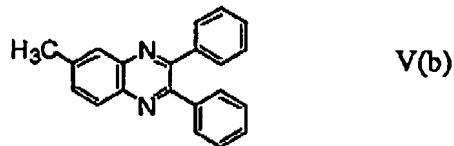
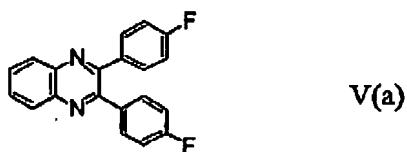
11. (Canceled)

12. (Canceled)

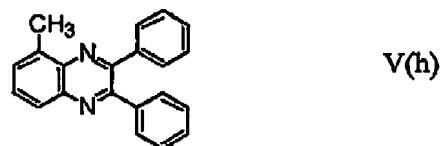
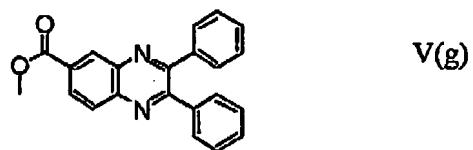
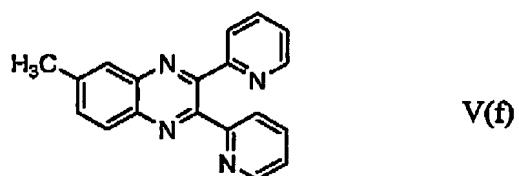
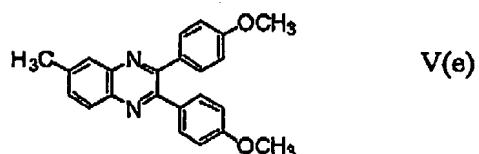
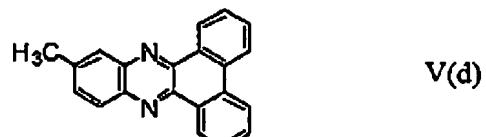
13. (Canceled)

14. (Currently Amended) The device of Claim [[13]] 1 wherein n is an integer from 1 through 12.

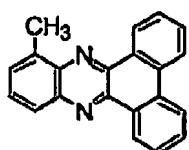
15. (Currently Amended) The device of Claim [[12]] 1 wherein the quinoxaline derivative is selected from Formulae V(a), V(b), V(d) through V(i) and V(k) through V(ag).



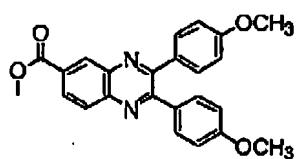
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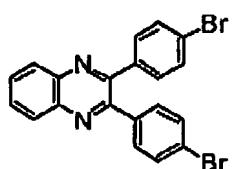
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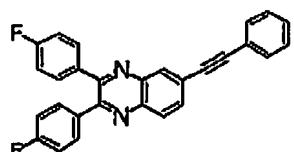
V(i)



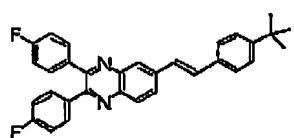
V(k)



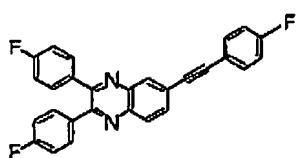
V(l)



V(m)

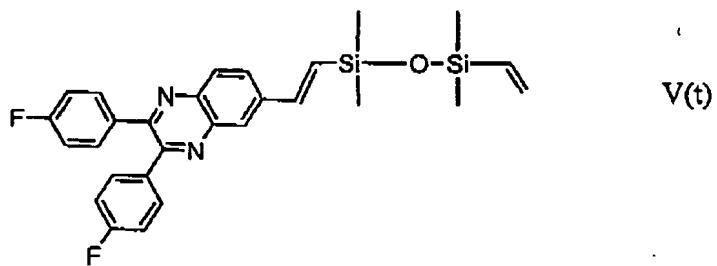
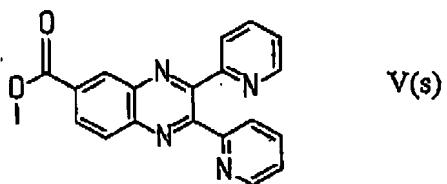
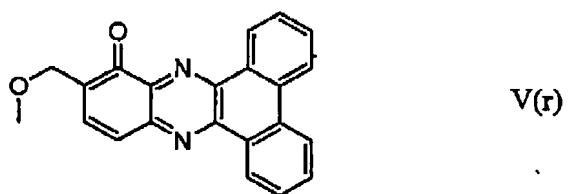
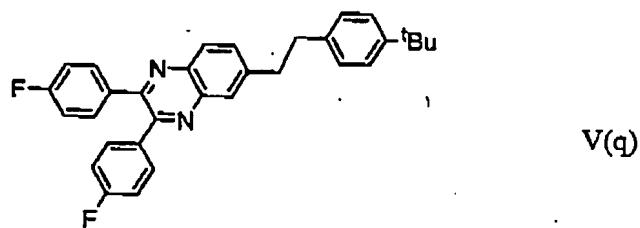
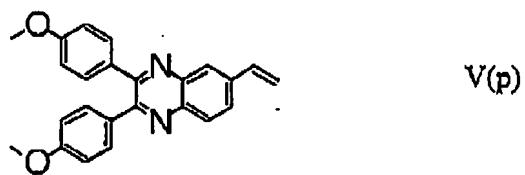


V(n)

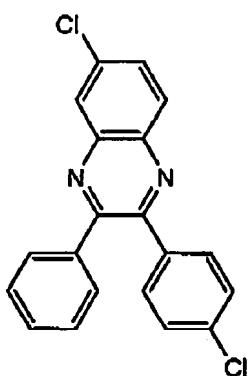


V(o)

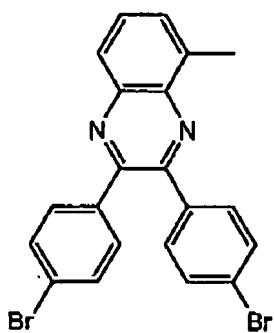
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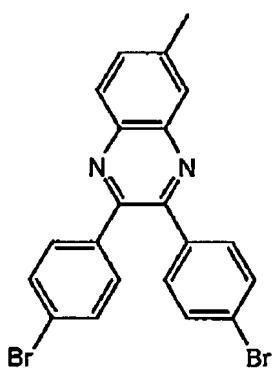
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V(u)

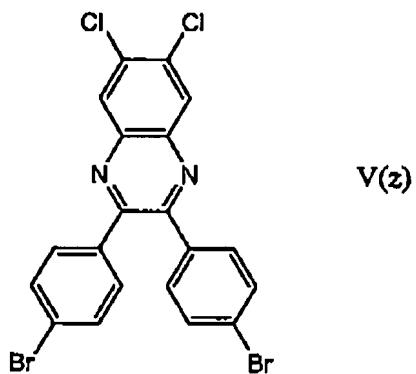
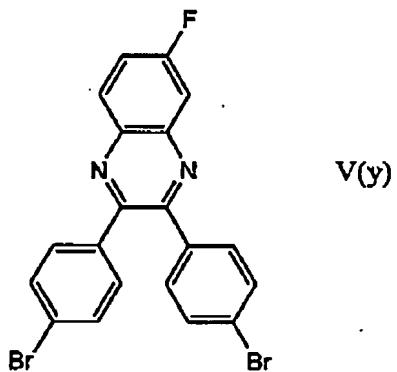
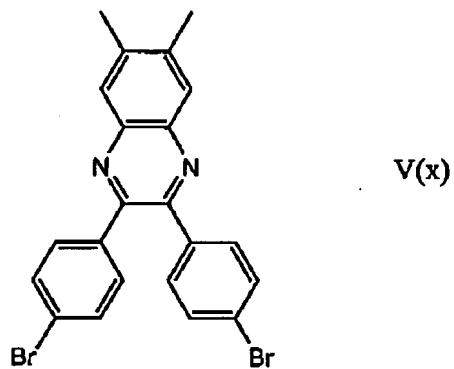


V(v)

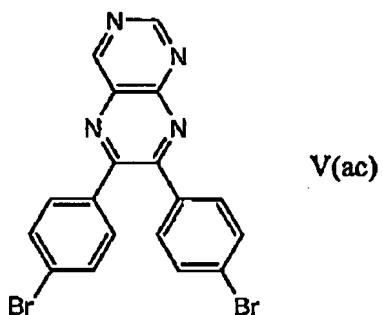
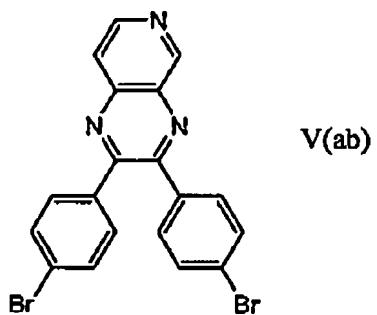
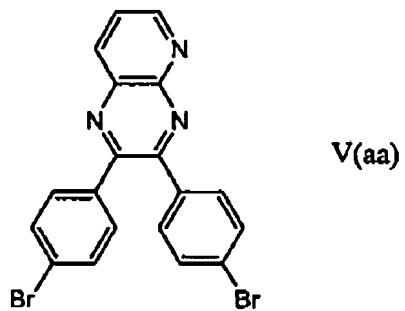


V(w)

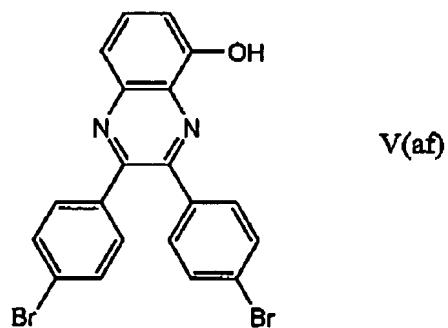
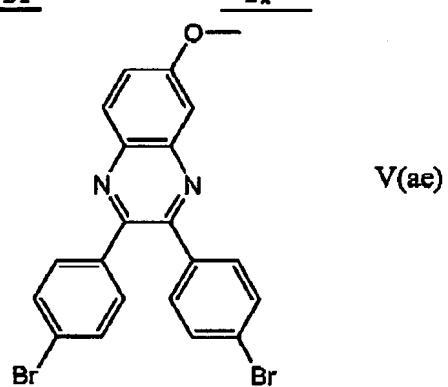
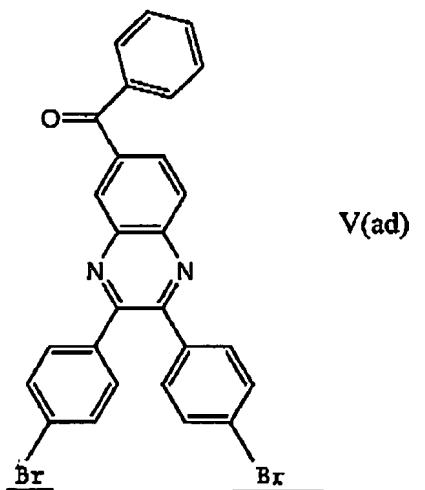
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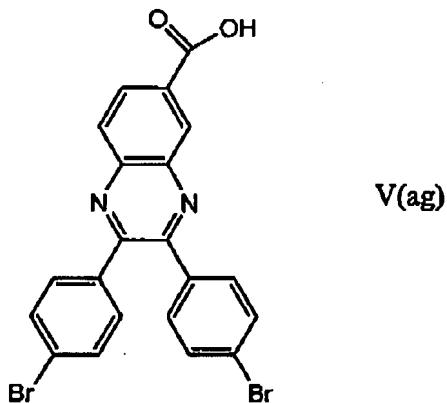
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16. (Canceled)
17. (Canceled)
18. (Canceled)
19. (Canceled)
20. (Canceled)
21. (Canceled)
22. (Canceled)
23. (Currently Amended) The device of any one of Claims 1, 3, [[-]]4 and [[12]] 14-15, wherein the device is a light-emitting diode, a light-emitting electrochemical cell, or a photodetector.